

# GENERAL RELATIONSHIP OF SYSTEMS USED FOR CLASSIFYING SOIL SAMPLES<sup>1/</sup>

USDA Texture Class & Symbol	Unified Symbol	AASHTO Symbol	Soil Properties <sup>2/</sup> Related to Classification
Clay; silty clay "c"; "sic"	CH MH CL	A-7 A-7 A-7	High shrink-swell clays Mica, iron oxide, kaolinitic clays Low LL. Generally clay < 45%
Silty clay loam "sicl"	CL ML-CL CH MH	A-7 A-7 A-7 A-7	Low LL. Plastic (A-6 clay < 30%) Low LL. Mod. plastic. (A-6 clay < 30%) High LL. High shrink-swell clays High LL. Mica, iron oxide, kaolinitic
Clay loam "cl"	CL ML-CL CH MH	A-6 or A-7 A-6 A-7 A-7	Low LL. Plastic Low LL. Moderately plastic High LL. High shrink-swell clays High LL. Mica, iron oxide, kaolinitic
Loam "l"	ML-CL CL ML	A-4 A-6 A-4	Moderately plastic (A-6 clay > 21%) Plastic (A-4 clay < 22%) Low plasticity. (A-7 clay > 21%)
Silt loam "sil"	ML-CL ML CL	A-4 A-4 A-6	Moderately plastic. (A-6 clay > 21%) Low plasticity. (A-7 clay > 21%) Plastic
Silt-"si"	ML	A-4	Low plasticity
Sandy clay "sc"	CL SC	A-7 A-7	Over 50% fines 50% or less fines
Sandy clay loam "scl"	SC SC CL	A-6 A-2-6 A-6	Plastic. 36 to 50% fines Plastic. 35% or less fines Plastic. Over 50% fines
Sandy loam "sl"	SM SC SM-SC	A-2-4 A-2-4 A-2-4	Low plasticity Plastic Moderately plastic
Fine sandy loam "fsl"	SM ML ML-CL SM-SC	A-4 A-4 A-4 A-4	Nonplastic. 50% or less fines Nonplastic. Over 50% fines Moderately plastic. Over 50% fines Moderately plastic. 50% or less fines
V.F. sandy loam "vfsl"	ML-CL ML	A-4 A-4	Moderately plastic Low plasticity
Loamy sands "ls"; "lfs" "lvfs"	SM SM-SC SM	A-2-4 A-2-4 A-4	Nonplastic. 35% or less fines Moderately plastic. 35% or less fines Low plasticity. Over 35% fines
Sand; fine sand "s"; "fs"	SP-SM SM SP	A-3 A-2-4 A-3	5 to 10% fines (approx.) Over 10% fines (approx.) Less than 5% fines
V.F. sand - "vfs"	SM	A-2-4	Low plasticity
Coarse sand "cs"	SP SP-SM SM SM	A-1 A-1 A-1 A-2-4	Less than 5% fines 5 to 12% fines 13 to 25% fines Over 25% fines
Gravel "G"	GP; GW	A-1	Less than 5% fines
50% pass #200	GM or GC	A-1	5 to 25% fines
50% of coarse	GM or GC	A-2	26 to 35% fines
pass #4 sieve	GM GC	A-4 A-6	Over 35% fines Over 35% fines

<sup>1/</sup> To be used as a guide for classifying soils where engineering test data are not available.

<sup>2/</sup> Percent clay based on soil characterization test data. Minerals, plasticity, liquid limit based on field identification tests, EFM, Chapter 4, beginning on page 4-20.

Exhibit 4-2

REFERENCE

U. S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

ENGINEERING & WATERSHED PLANNING UNIT  
BROOMALL, PENNSYLVANIA

TSC-NE-ENG.

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